

WHAT IS CLAIMED IS:

1. An opening method of continuous filaments, comprising the steps of:

transporting crimped TOW by means of a plurality of rolls;

5 and

applying a resistance on at least one side of said TOW by slidingly contacting at least one sliding body onto said TOW at between rolls, whereby continuous filaments stacked in a thickness direction of said TOW are caused to sift in a transporting direction of said TOW to open said TOW and to spread said continuous filaments in a width direction of said TOW.

10

2. The opening method of continuous filaments as set forth in claim 1, wherein a plurality of sliding bodies are provided in said resistance-applying step, and wherein each side of said TOW is slidingly contacted by at least one of said sliding bodies.

15

3. The opening method of continuous filaments as set forth in claim 2, wherein each sliding body is adjustable of a tilt angle relative to a line perpendicular to transporting path of said TOW and a penetration amount into the transporting path of said TOW.

20

25 4. The opening method of continuous filaments as set forth

in claim 3, which further comprises a step of detecting a width  
of spread continuous filaments after slidingly contacting with  
said sliding bodies, and a step of automatically adjusting said  
tilt angle and said penetration amount of said sliding bodies  
5 on the basis of the detected value.

5. The opening method of continuous filaments as set forth  
in claim 1, wherein peripheral speeds of rolls located at  
upstream side and downstream side of said sliding body are the  
10 same.

6. The opening method of continuous filaments as set forth  
in claim 1, wherein, among rolls located at upstream side and  
downstream side of said sliding body, the peripheral speed of  
15 the roll located at downstream side is set higher than that  
of the roll located at upstream side for applying tension force  
on said TOW between the rolls.

7. An opening apparatus of continuous filaments,  
20 comprising:

a transporting roll group for transporting crimped TOW  
of continuous filaments; and

at least one sliding body arranged between rolls of said  
transporting roll group for slidingly contacting with said TOW  
25 to be transported.

8. The opening apparatus of continuous filaments as set forth in claim 7, wherein at least one sliding body is provided on one side of said TOW and at least one sliding body is provided on the other side of said TOW.

5

9. The opening apparatus of continuous filaments as set forth in claim 7, which further comprises:

detecting means for detecting a width of spread continuous filaments after slidingly contacting with said  
10 sliding body;

adjusting means for adjusting a tilt angle of said sliding body relative to a line perpendicular to transporting path of said TOW and a penetration amount of said sliding body into the transporting path of said TOW; and

15 control means for controlling said adjusting means for varying said tilt angle and said penetration amount of said sliding body on the basis of the detected value by said detecting means.

20 10. The opening apparatus of continuous filaments as set forth in claim 7, wherein said rolls located at upstream side and downstream side of said sliding body are driven to rotate at the same peripheral speed.

25 11. The opening apparatus for continuous filaments as set

forth in claim 7, wherein, among rolls located at upstream side and downstream side of said sliding body and driven to rotate, the peripheral speed of the roll located at downstream side is set higher than that of the roll located at upstream side.

2025 RELEASE UNDER E.O. 14176